

8-3: Properties of Inverse Functions

In 8-2, we saw inverse functions and:

1. How to find them:
2. A graph and its inverse are:
3. Domain of g =
Range of g =

What is an inverse?

So what **are** inverse functions?

Inverse Function Theorem:

1.

2.

Example 1: Let $f : x \rightarrow \frac{1}{2}x - 3$

a. Find the inverse. Call it g .

b. Find $f(g(x))$.

c. Find $g(f(x))$.

Inverse Function Notation:

Example 2: $f(t) = \frac{1}{4}t - 3$. Find the inverse and check to make sure it is the inverse.

Example 3: $h(x) = x^4$. Find $h^{-1}(x)$ and check.

Power Function Inverse Theorem:

Example 4: Are $f(x) = 3x + 2$ and $g(x) = \frac{1}{3}x - 2$ inverses?

Homework:

"Slumber not in the tents of your fathers! The world is advancing. Advance with it!"

- Mazzini